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## ORIGINAL ARTICLES.

### SOME PERSONAL OBSERVATIONS ON THE PLAGUE IN CHINA.*

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I arrived at Yokohama, Japan, on the U. S. Cruiser Charleston about the first of October, 1894, and I met Professor Kitatsato at his Institute for Infectious Diseases in the course of my first leave of absence from the ship. He gave me a note of introduction to Professor Aoyama, of the chair of internal medicine in the Imperial University, whom I met at his home. This frank and accomplished physician was not at that time fully recovered from the attack of plague that he had suffered in Hong Kong in the preceding June, but he received me most cordially nevertheless, showing me the photographs of the volunteers from the Shropshire Regiment and the sanitary corps cleaning out Chinese quarters, caring for the plague-stricken and disposing of the dead. He recounted his experience and his observations of the malady, and recalled with grim humor the preparations that were made for his burial. At the end of my visit he insisted upon my accompanying him to his laboratory at one of the general hospitals of Tokyo, where he showed me many of the specimens secured in Hong Kong.

I embedded some of the material given me by Aoyama upon my return to the ship (using, instead of the convenient oven of the laboratories, a portable electric drop-light covered over in the stationary wash-basin in the stateroom of an absent messmate); and I finished some sections at the lower end of the Japanese Empire about a week later, after my transfer to the smallest gunboat that our government keeps in commission. They served to convince me that the plague-bacillus decolorized by Gram's method, and led me to doubt at that time the thoroughness of Kitatsato's work in connection with this organism. He had demonstrated it to me in the course of my call upon him, but the cultures that I saw at that time were far from exhibiting the luxuriant growth that I have not failed to find it show in other hands. The English-speaking assistant in the Institute failed to secure a satisfactory cover-glass preparation from a culture on blood-serum, and the specimen exhibited was a mounted slide of blood. Subsequently I never saw any cultures of plague at the Institute, although I asked to see them repeatedly. I was told at length that only Professor Kitatsato had to do with the organism, and eventually he himself ignored a written request—in German—that I sent to him through the Legation of the United States in Tokyo, as he did also an application to have him supply the

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Marine-Hospital Laboratory at Washington with his cultures of the organism.

I am at pains to relate these matters thus minutely here because a late number of *Science* claims that substantial differences exist between Kitatsato's organism and that of Yersin. Briefly, the peculiarities given for the bacillus of Kitasato are: (1) Its positive staining reaction by Gram's method; (2) its smaller size; (3) its active motility.

My observations have been confined to cultures obtained in July, 1896, through Yersin, then at Hong Kong, from Dr. M. Wilm, of the Imperial German Navy, who spent some months of 1896 in the employment of the Colonial Government of Victoria (Hong Kong). These cultures show motility in bouillon, and the medium does not clear by sedimentation as with Fehleisen's coccus—as Yersin contends. Otherwise, I can confirm everything that Yersin states. Passed Assistant Surgeon H. D. Geddings, of the U. S. Marine-Hospital Service, quotes Roux as emphasizing the importance of decolorization by Gram's method. The same observer states that the organism is not motile. Some cultures derived from those that I brought to the United States were taken to the Pasteur Institute in Paris by an American under instruction at that institution, but unfortunately they yielded only staphylococci with which, presumably, they had become contaminated.

Plague-cultures seem to require renewal about every three weeks, and this does not require, in temperate and subtropical latitudes, the use of a thermostat. The organism grows as freely at room temperatures as any pathogenic bacillus, possibly more freely than any other of the class. Its growth is attended with intense acidity, which is often sufficient to destroy contaminating molds. Pathogenesis appears to be readily lost. The bacillus survives under ordinary conditions about six weeks. Morphologically it resembles closely the bacillus of chicken-cholera.

The first cases of plague that I saw were at the Kennedytown Plague Hospital, in a suburb of Hongkong, early in February, 1896. There had been but a few cases—44, I believe—in 1895, following the 2,550 reported deaths in 1894. About thirty deaths occurred in January, 1896; and the number of deaths was increasing so rapidly in widely separated places about Hong Kong at the time that I reached there that the health-official gave up an attempt to segregate persons known or suspected to have been exposed to infection. Many of the first cases that I saw had developed while thus under observation, and a greater percentage of these cases recovered than of any others that I heard of, except Yersin's patients in Canton and in Amoy, who were the first to receive his anti-plague serum.

I considered some early diagnoses by the attending medical officers very impressive; for the objective symptoms of the first stage are, in many cases, neither striking nor unequivocal before the bubo appears. They depended upon the apprehensiveness of the patient, although he did not often express this otherwise than unconsciously by his facies, and much upon the appearance of the tongue. The state of anxiety of the stage of invasion is often soon replaced by an air that is perhaps comparable to the language-clipping stage of alcoholic intoxication. The usual congestion of the face and the constant injection of the conjunctiva add to the deceptive appearances. Moderate fever will be found; the thin, uniform, whitish coating upon the tongue passes rapidly through yellow to brown, and may be further altered by sordes; and the urine will be slightly albuminous. The usual signs of fever may increase, but the temperature does not often exceed 105° F. in adults. The suffusion of the face deepens in some cases, but I can hardly think that it of itself ever suggested the old name for plague—*black death*—as Wilm surmises. I am convinced that this name arose from the damage inflicted upon the capillary vessels by the toxins of the plague-organism. As an early result of this damage, ecchymoses follow even trifling violence to cutaneous surfaces comparatively hardened by exposure or by use. In more than one case, I saw a Chinaman's temple almost black from having rolled but lightly against the framework of a dhoolie—a covered litter—or from having turned it too heavily upon a bamboo pillow. Pinching between two coins and other methods of counter-irritation that are routine measures in Chinese medical practice made very striking spectacles of the patients of physicians of this school. One

could well imagine what would be seen in the bodies of white people dead of the disease; for, even in the absence of all injury, there appears to be a rather greater tendency toward a slaty blueness of the superficies than other corpses show as a rule. This tendency to ecchymosis is constant enough to be of use in diagnosis; unfortunately, like many other symptoms, it may appear late, although not as a rule. Wounds inflicted in this stage bleed very freely. Ecchymosis ceases when suppuration begins.

The early brain-symptoms, such as the half-drunken state referred to, and the delirium, which is but rarely severe in the Asiatic, are probably effects of the action of this toxin. I saw acute mania follow a comparatively mild extension from the primarily involved axillary glands of the presumably specific process to other chains of lymph-nodes. It occurred in the course of an otherwise uneventful convalescence from a mild attack of plague in a young and vigorous Chinaman. His axillary bubo had been incised some days previously, when the accessible lymph-nodes about his neck showed slight enlargement. His temperature rose above the oscillations through feverishness that are customary in convalescents from plague and remained for a few days about moderate fever; indican appeared in his urine after having previously disappeared, and it persisted throughout this seizure in spite of free catharsis. For three or four days the patient presented the unique picture of a superlatively joyful Chinaman, with the stolid gravity of fellow-patients and of attendants of his own race for a very effectively contrasting background. Often it appeared almost grotesque to see what had been but lately a splendid specimen of physical manhood restrained to a light cot of bamboo by a turn or two of a bandage across the chest, but it was a ready measure of how easily the disease destroyed the capacity for exertion.

Before leaving altogether the question of the effects of the toxins of the disease, it should be said of what have been described specifically as the plague-spots—the *tokens* of the middle ages—that Lowson and Aoyama have established that they follow the bites of mosquitoes, of vermin and even of flies. The latter are quite equal to the task of penetrating man's integument in a Hong Kong summer, and the changes that take place about so slight an injury constitute the lesion. I did not observe these petechiæ in a single instance, but I was not at Hong Kong in the season of activity of these pests. In 1894, the greater portion of the cases fell within this time, however, and the sufferings of the plague's victims were greatly increased by them.

Ordinarily the course of a case of typical plague does not impress one as being a severely painful experience. The limb whose base shows a bubo will be disposed so as to avoid tension over it; there may be great restlessness; and epigastric uneasiness seemed to be nearly constant. There was,however, little complaint of persistent pain.

In a large proportion of cases the temperature keeps near the elevation it first reached for from one to three—rarely more—days. The pulse loses force and soon shows the quality described as running; it is often dicrotic. Many irregular symptoms may appear as the end approaches; this usually comes through circulatory failure, and a greater part of the cases die within the first four days of illness.

There is a class of cases that increases in number as an epidemic of plague progresses, whose subjects present no initial buboes. They seem now to be called pneumonic cases, but the reason therefor is not quite plain to me. It is, of course, probable that I have not seen the clearest type of them, such as the early cases of *máhámari* or those more lately described at Bombay. The recollections that current descriptions bring to me are of patients overwhelmed by infection through the gastro-intestinal tract. None of these cases recovers, as I believe. I saw but very few of them while they were alive, and I could not obtain any satisfying accounts of the symptoms. But I saw so little that suggested primary or even important pulmonary involvement that I am at a loss to understand its prominence elsewhere. For all of that, some experienced and most observant individuals have most wholesome fear of the dust from rooms occupied by plague patients.

Two cases of plague without buboes that I knew of received most excellent medical attention from the very beginning

of their illness, but the blood of neither of them showed the bacillus during life, and only the autopsies confirmed the tentative diagnosis.

The buboes, which have served to characterize this disorder more strongly than all of its other symptoms combined, are the nodes receiving the lymph-vessels or material from spaces inoculated with the plague-organism. Nearly all of the superficially situated lymph-nodes have been found at one time or another to constitute buboes. The anatomic situation of these nodes influences materially the character of the buboes. Thus the mesenteric glands, even in cases of intestinal infection, rarely are markedly hemorrhagic, and they are but moderately enlarged; while the lymph-nodes of the pleura and the mediastinal glands seem to be even less influenced. If the patient have survived for several days, it is usual to find that all of the lymph-nodes of the body present appreciable changes in appearance; but it is unusual to see hemorrhagic inflammation, except in a chain that has been infected from without. The tendency to small hemorrhages in almost every vascular part is constant in most cases and renders difficult the accurate determination of the limits of lymphatic involvement.

Probably the most striking feature of these buboes is the large number of bacilli present in and extending outward from the lymph-sinus of the node. The enlargement of separate nodes is attained as in ordinary inflammation and is added to by the hemorrhage and the wonderful multiplication of the bacilli. Large masses may be met, but they are due to the matting together of separate nodes that may be made out individually in the early stages of their implication. Frequently the uniting substance is gelatinous in character, and occasionally the mass may slough out. I did not see a carbuncular bubo, nor an ambulatory case of plague.

Exudation, in the form of a localized edema, involves the tissues over and about primarily affected nodes. This often leads to erroneous ideas of the size that is attained by the affected nodes on palpation. I soon learned that I could never be sure of what I should find upon section, and this was the more true when fat cadavers were concerned. This edema was extreme in some bad cases. The fluid sometimes appeared blood-stained, but much oftener the swelling was permeated with straw-colored serum, while the node beneath it was intensely hemorrhagic.

The presence of hemorrhagic inflammation in lymph-nodes was accepted as the pathognomonic sign of plague. Doubt in some cases was resolved by the aid of smear-preparations from the spleen.

The bubo suppurated in all but the mildest cases of plague. I think that the pus of plague is characteristic. It is unusually thick, if its recent formation be taken into account, very tenacious, grayish in color, and not often very abundant. It has been shown that the plague-bacillus is a pyogenic micro-organism. Mixed infections are very common; perhaps they present more variations than many other acute infectious processes can show. Pyogenic cocci are present very early in some cases; often they appear to replace gradually the plague-bacilli in incised buboes. Streptococcous infection was indicated oftenest to me by complications that were clinically indistinguishable from erysipelas. Wilm claimed to identify streptococci by morphologic appearances.

Some cases seemed to present an early general suppurative tendency affecting many tissues and soon reducing the sufferer to an awful extremity. I have some gruesome recollections of extensive diphtheria-like ulceration of the fauces, of purulent keratitis, of purulent synovitis and of early abscesses superficially distributed for the most part, but wonderfully numerous. Similarly microscopic abscess are common in organs that seem without gross lesions.

Autopsies complete from the bacteriologic standpoint will be required to classify many of the incidents of the disease.

One must use, for a fixed point around which to gather sufficient details for a mental picture of the disease, one of the hemorrhagic septicemiæ of lower animals. Glanders furnishes perhaps the nearest parallel, although it is by no means close. Like glanders, however, the infection is received through either a wound or an unbroken mucous surface. I was able to kill rabbits by pencilling scrapings from buboes into their conjunctival sacs—using the utmost gentleness to avoid making abrasions, death taking place from eight

to ten hours earlier than in control-rabbits that had been inoculated subcutaneously with the same material.

There is a strong presumption in favor of a direct relation in men between the great preponderance of inguinal buboes and infection through the genital tract. Although the word bubo is restricted in application to the inguinal region, save only in this disease, I am not aware that this relation has been noted prior to March, 1896, at which time I suggested it to Dr. James A. Lowson, of the Government Civil Hospital at Hong Kong, and he brought it up for consideration at a meeting of the Hong Kong Local Branch of the British Medical Association, at which I attended as a visitor on March 13th. I read there an account of my efforts to connect buboes in about 70 cases with injuries and with other possible sources of infection, but the histories were too meager to furnish any good results. I stated upon that occasion—what I still believe—that the act of urination affords in men opportunity for infection with plague through inoculation of the urethral mucous membrane with contaminated fingers; for the fewest number even of the neatest of men take precautions to obviate infection by this means.

It is an old observation that cervical buboes predominate in children, and this distribution is explained by their habit of putting things of various kinds into their mouths. In Hong Kong in 1894, the Chinese women furnished a proportion of victims beyond that commensurate with their relative number. The fact is well explained, I think, by their practical confinement within infected quarters by reason partly of inexorable conventionalities and partly of the deformity of their feet, inicted, possibly, to enforce conventionality.

An unusual element is introduced into consideration of plague-epidemics, as Yersin was quick to perceive, by the spread of its virus through such ordinarily insignificant agents as rats, flies and possibly other domestic pests and pets. Practically all of his claims have been confirmed lately by Nuttall. Dr. E. H. Wilson, of the Brooklyn Health Department, has repeated one of Yersin's experiments, with an important variation and an interesting result. He introduced into a jar whose bottom was covered with dry oats a number of healthy mice and a number inoculated with plague-bacilli. No infection of the well mice by those that had been inoculated took place, although the latter all died. In Yersin's experiments no drying material was used and some of the healthy mice become infected. Wilson's experiment indicates the slight resistance of the plague-organism to drying, and it may explain in part the infrequency with which the disease prevails in dry weather. The facility with which rodents acquire the disease is a new danger in large communities, inasmuch as few municipalities are prepared to disinfect the places accessible to their rat population.

The immunity of the large river-population, as the hordes who live in small boats on the water-ways of Canton are called, and the disinclination of the disease to descend water-courses whose trade is small and inconstant, owing to rapids —such as the upper Yangtse and the formative tributaries of (Canton) West River— may perhaps be due to the influence of dryness upon the organism. Plague has ascended the latter stream, but quite slowly; yet the disease has existed for years upon its upper branches. As yet it is not known to have followed along the Yangtse, although it was not far from this stream that it was first seen by Mons. E. Rocher in January, 1871. He was, I think, the first who recognized the true character of the disease in this region. Its introduction into Yunnan was very probably from the Nepaul frontier, where it is known to have existed since 1848. It came, in all likelihood, by caravan through Bamo along a trade-route that is little known to modern European explorers, during the course of the Mohammedan rebellion against the Chinese in Yunnan. This contest raged from 1856 to 1872, and its close was marked by the unimaginable horrors of a Chinese victory. The victorious troops were terribly scourged by the plague, and it seriously affected those first sent from this province against the French in the Tonkin war in 1883. This was soon after its epidemic prevalence about Pakhoi.

The dangers of the spread of plague from the existing foci in India are particularly great at present, owing to the disaffection of the Mohammedans in India,

some of whom are the most perfect fatalists on earth. The restriction of the annual pilgrimage has doubtless retarded diffusion of the disease; but the present war with the hill-tribes and the possible effects of Turkey's victory over Greece are hardly encouraging, to state the situation mildly. Russia, Austria and Turkey are the countries threatened directly from extension by land. Persian customs regarding burial present especial dangers there.

It seems very probable that the disease was conveyed by steamer from Hong Kong to Bombay. Other less extended voyages are known to have been made from Hong Kong to Yokohama in 1896, and to Nagasaki in 1894 and 1896; and from Formosa to both of these Japanese ports in the present year. It was introduced into Formosa by tea-pickers from Amoy in 1896. I have little doubt that it is working its way northward along the Chinese coast.

Prompt isolation of affected individuals and the rigid application of the principles of modern sanitation will afford gratifying results whenever and wherever they may be applied. Hence the only danger is that unrecognized cases may be introduced. I think it quite too much to assume that there are favored spots upon which its seeds may not fall, even where sanitation has advanced the furthest. I doubt the existence of racial immunity, and I am inclined to think that human beings that are insusceptible to plague are quite as few as guinea-pigs that are thoroughly resistant to tuberculosis.

From what I saw of Dr. Yersin's work in Nha Trang, Annam, I am most strongly of the opinion that his serum will retain a very prominent place in the therapy of this most fatal of all epidemic maladies. Recent press accounts of his latest use of it in Bombay indicate that its curative properties are all that he has ever claimed for it; that is, that in ordinary cases, before heart-weakness is pronounced, it will save a percentage of cases equivalent to the death-rate of an ordinary epidemic, or, roughly speaking, about 50 per cent. of all cases.

Those who recover from plague-infection of ordinary virulence—and they will be fewer than 10 per cent. of the number attacked, unless some specific remedy be used—may be expected to show many tedious sequels that require both surgical measures and the best that feeding and nursing can do for their restoration to health. It was in these particulars that nearly all of the benefits accrued from the treatment that the Colonial Government and the citizens of Hong Kong extended liberally to the Chinese. To these measures also is due the reduced mortality that has been reported with regard to Europeans affected with plague. Evidence exists that their death-rate, which is placed at 50 per cent., has been under-estimated.

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## THE DIGNITY OF PHARMACY.

Mr. T. Morley-Taylor, President of the Chemists' Assistants' Association of Sheffield, Eng., gave utterance to the following in his inaugural address, October 7, 1897:

"Self-respect! I am afraid there are a certain number of our best men who leave the trade every year because they discover that they are a cut above trade or become ashamed of the counter. No rationally minded man need be a cut above trade, but every rationally minded man should be a cut above the low down Dutch auction level to which business seems to be generally tending. Why should a man who has spent time, money, and brain power in acquiring a special qualification be content to keep what looks like a cheap hairdresser's establishment, to hang out graceful intimations to the effect that "our prices knock the stores," or turn his window into a panorama of batrachian eccentricity for the purpose of advertising a quack medicine? The man possessed of extraordinary commercial ability may put it to as good and honorable use, as another man may apply his power, which may be of a more intelligent character. The counter, whether it is situated in the wealthiest neighborhood or the poorest thoroughfare, will never detract one jot from the personality of the man who stands behind it, confident in a sound education for his work, and armed with a corresponding amount of self-respect."

# EPITHELIOMA IN A BOY OF FOURTEEN.*

MILTON B. HARTZELL, M.D., PHILADELPHIA.

In July of this year, A. G——, an anemic youth, sixteen years old, presented himself at the Skin Dispensary of the University Hospital for advice concerning a chronic ulcer of the face, situated over the left zygoma. This ulcer was the size of a dime, irregularly rounded in shape, with an elevated, waxy-looking, rolled-over border, and covered with a thick black crust. According to the statement of the patient the disease had begun two years ago—when he was fourteen years of age—as a small pimple, which persisted for six months before ulcerating. From the first appearance of the ulcer it had never healed, but it had enlarged slowly, and for the most part painlessly, until it reached its present dimensions. Close by its outer edge was a pea-sized tubercle, with a small central opening, of some months' duration; near the left nasal ala was another smaller tubercle, and upon the outer edge of the left nostril was a superficial ulcer as large as a split pea, with a blackish crust, these three small lesions having appeared subsequently to the large one over the zygoma. A clinical diagnosis of epithelioma was made, notwithstanding the youth of the patient. To confirm or disprove this a microscopic examination of sections obtained from the border of the ulcer was made, and this fully confirmed the clinical diagnosis, revealing a neoplastic structure consisting of a fibrous stroma in which were numerous irregularly shaped, branching tracts of columnar epithelium, and a round-cell infiltrate separating the neoplasm from the healthy tissues. A forty per cent. plaster of pyrogallol was applied to the largest lesion (more radical treatment not being employed on account of the patient's timidity), and continued for two weeks. After the removal of the slough thus produced the ulcer was dressed with an ointment of boric acid, one dram to the ounce. Under this treatment healing rapidly took place, but it was apparent that there was still some epitheliomatous tissue left after complete cicatrization. The small ulcer upon the edge of the nostril was excised, and was found, upon microscopic examination, to present much the same structure as the one upon the cheek.

In twenty-seven cases of rodent ulcer Roger Williams found the average age at which the process began to be 44.4 years in male, 42.1 years in females, while in twenty-two cases of other forms of carcinoma of the skin the average time of beginning was about ten years later, *i. e.*, 55 years. A considerable number of cases, however, occur much earlier; but before twenty epithelioma is an extremely rare disease. Williams has also reported a case of rodent ulcer occurring at fourteen years of age. The patient was a girl, the disease beginning as a small pimple upon the left temple. Curetting, cauterization and excision were without avail, the malady causing the patient's death after twenty-one years. Thin quotes Morris as having seen a case that began at fourteen. Kaposi, in his treatise on *Diseases of the Skin* speaks of having seen several patients between the ages of eight and eighteen, but no details are given. Lossen[1] has reported a case of epithelioma of the forehead occurring in a young girl eighteen years of age, the subject of a pustular acne which produced marked scarring. Over the left brow was an ulcer the size of a two-mark piece, the diagnosis of epithelial carcinoma being confirmed by the microscope.[2] Excision was followed by complete cure, there being no recurrence after one year. Nobiling has observed an epithelial carcinoma on the scalp of a young man, twenty years of age; and Arnott one upon the left labium of a girl of twenty. Winiwarter has seen a case of carcinoma of the external ear in a young man of nineteen. The earliest period of life at which epithelioma has been observed of which I have been able to find

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[1] *British Medical Journal*, 1890.
[2] *Ibid.*
[3] *Archiv fur Klinische Chirurgie*, *Bd.*, 23.

any record, has been reported by Demonceaux, this observer recording a rapidly progressive case of epithelial carcinoma of the skin of the thumb of a child, five years of age; the diagnosis was confirmed by the microscope.

In conection with this subject of epithelioma in early life brief reference may here be made to that rare malady first described by Kaposi, and named by him xeroderma pigmentosum, in which ulcerative lesions resembling in their structure and behavior epithelioma, occur in quite early life, associated with pigmentation and atrophy of the skin and the formation of numerous telangiectases. These lesions are, however, but part of a multiform process occurring in some cases with tissue-alterations resembling other malignant growths, such as sarcoma.

In conclusion it may be noted that a very large proportion of the small number of cases of epithelioma occurring in early life belong to that variety known as rodent ulcer. The tendency to early occurrence is shown very conclusively by Williams' statistics, already quoted.

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## OPERATIVE DETAILS IN APPENDICITIS.*

JOSEPH PRICE, M.D., PHILADELPHIA.

My discussion is brief, as enough has been said by experienced and reliable authority on this important subject to influence the profession in the right direction; yet the profession has not been influenced to the extent that was hoped. Operations have been refused, delayed and postponed for a variety of unsurgical reasons. Appendicitis is always appendicitis; the diagnosis as such is made or not made; the diagnosis is that of appendicitis or of something else. If appendicitis there is but one treatment, i. e., early, prompt removal of the offending organ.

Tinkering of any character, as in all other virulent troubles, is never justifiable; the deaths from delays are numerous and the complications, if death does not result, are very great and difficult to deal with. Recurrences are dangerous and complicating. The strong argument in favor of prompt primary surgical interference is that the operation is easy and safe in the hands of experienced surgeons or those who have observed and carefully studied all the details of the operation and the mortality is *nil* or very low. General surgeons have been obstructionists on this subject; they have nursed a dread of sepsis or infection. They had the same terror of the peritoneum; their early and long-continued opposition to ovariotomy had its source in like fears.

Incomplete operations have been too common; this fact must be charged to the unreasonable, unfounded fears I have referred to. Surgical completeness is essential to secure the best results. Simple incisions, with imperfect gauze drainage, is one of the mistaken yet common methods —followed usually by fecal fistula, prolonged slough and suppuration. The appendix should be removed in every case, the operation made complete at any cost, as in intra-peritoneal and pelvic operations.

The law as laid down by Mr. Tait, that intra-peritoneal operations should be completed at any cost, applies with as strong or even stronger reasons to appendicitis than to bilateral suppurations of tubes and ovaries. In the pelvic operation the suppuration and adhesions are much more general and extensive. Results can only be perfect in the completed operations.

In appendicitis the suppuration is in the right iliac fossa, high up and easily dealt with; the adhesions are easily freed; viscera lesions easily repaired.

When localized or general peritonitis exists the toilet should be complete and the drainage thorough. The freeing of omental and intestinal adhesions should be complete in every operation. The avoid-

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ance of such adhesions favors infection and complications. Surgeons commonly seek the pus-accumulations behind the cecum, but steer cautiously away from the peritoneal cavity, the pus and filth beneath the omentum and the adhesions of the ileum.

Operative details have been too complicated; transfixion is dirty and infectious; the simple passage of a suture through the dirty canal is unsurgical.

Circular or mass tying and inversion is also unsurgical, incomplete and infectious. A large piece of the appendix remains and the inverted stump creates a septic dead space. The amputation-method, cauterization of the stump or the application of carbolic acid or of solutions is incomplete, dirty and dangerous, dangerous because incomplete and dirty.

We always have considerable liberty about the head of the cecum for suturing. I urge the complete method, extirpation in all cases. The method is very simple and very rapid; it simply consists in cutting out the appendix from the head of the cecum with scissors. The operative steps are as follows: Tie the artery by transfixion of the meso-appendix; encircle the appendix with a knife one-fourth of an inch from the cecum; pass four or six sutures, two or three below and two or three above the appendix; cut out the appendix and tie the sutures. By this simple method all sutures are passed before opening the bowel, and the risk of contamination of sutures and surrounding peritoneum is about *nil.*

I have been performing this operation for some years without any mortality, but with speedy recoveries and a total absence of post-operative complications.

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## EXOSTOSIS OF THE ORBIT.*

EDWARD JACKSON,† A.M., M.D., PHILADELPHIA.

Orbital exostosis is a condition so rare, and yet so important, that it is worth while to place every case upon record.

M. R., an Italian woman, aged 35, applied at Wills Hospital in November, 1897, in the clinical service of Dr. Conrad Berens, by whose courtesy I saw her and assisted at the operation. She applied on account of a large, rounded tumor at the upper inner portion of the right orbit, which had been growing for several years, but more rapidly of late. The formation had also recently been at times somewhat painful. Her eyes were normal in appearance and function, but the right eye was slightly displaced outward. The tumor was situated above the internal canthus and was extremely hard and not movable.

On November 18th the patient was placed under the influence of ether, and an incision made, commencing at the side of the root of the nose and extending below the brow to the outer third of the orbit. This was carried directly down to the bone, and the soft tissues down to the periosteum were separated and pressed back, chiefly with the handle of the scalpel until the anterior half of the growth was fairly exposed. The tumor was found to be attached to the inner wall of the orbit by a pedicle considerably smaller than the thickest portion of the growth. Using the supra-orbital ridge as a fulcrum, the exostosis was readily, and with very little violence, broken loose from its attachments. When lifted out of the wound there was found adherent to it a polypus half the size of the end of the little finger; which is still seen, though shrunken by the hardening fluid, in the accompanying specimen. The attachment has been to the inner wall of the orbit involving the junction of the os planum of the ethmoid and the orbital portion of the lachrymal bone. Its removal freely opened the cells of the ethmoid. A drainage-tube was introduced through the wound, and carried down into the nose, and out through the right nostril. Hemorrhage was checked by use of hydrogen

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† Professor of Diseases of the Eye in the Philadelphia Polyclinic; Surgeon to Wills Eye Hospital.

dioxid. The incision was closed by sutures, a ligature having been placed on the large vein at the inner angle of the orbit. Healing was uneventful. The drainage-tube was removed at the end of a week, and the patient was discharged at the end of two weeks, entirely well. Neither the vision of the right eye nor the relation of the eyes to each other in binocular vision was at any time noticeably interfered with.

The second specimen of exostosis of the orbit, shown this evening, I removed at the Philadelphia Polyclinic in 1891 from a young woman aged 18. It had been growing rather rapidly, having been first noticed two years before. It filled the upper part of the orbit and displaced the eye downward 10 mm. and forward 8 mm. The size of the growth leaving very little room to work between it and the eyeball, its presenting portion was with great difficulty broken up before an attempt was made to separate it from its base. Probably, had I known just what its attachments were, it could have been broken loose and separated as a whole with less difficulty, for the pedicle was not more than twice as large as in the case just reported, though thicker. The removal of the next to the largest fragment, however, enabled me to drill through one side of the base and so weaken it that it was easily broken away. The patient recovered promptly and returned four weeks later to her home in the western part of this State, with the eyeball sunk back to its normal position and good binocular vision, but with slight ptosis still remaining. I understood that subsequently this ptosis disappeared and the patient five years after the operation remained well. This case was reported to the Section on Ophthalmology of the American Medical Association in 1892.

Tumors of this sort are rare. Among 210,000 cases treated at Wills Eye Hospital in the last twenty-five years but 11 cases of orbital exostosis were recognized. They are, however, of especial interest because of their connection with the cavities adjoining the orbit. The first one shown this evening evidently arose from the ethmoidal sinus. The second arose partly from the ethmoidal, and possibly partly from the frontal sinuses. Other cases have been reported in which the growth arose entirely from the frontal sinus. In some cases the origin is said to have been from the wall of the orbit, though in these there might be some doubt as to whether the base of the growth had been reached and completely removed.

In a case recently reported by Webb and Charmley,[1] a growth the size of a pea, having the physical and histologic characters of an osteoma, the same stony hardness and ordinary structure of one, was removed from the conjunctiva of a young woman aged 20. A number of cases have been reported in which the growth involved the cranial cavity; but in these it was altogether probable that the growth had started in one of the sinuses and extended inward, with absorption of the cranial wall.

What are known as ethmoidal bubbles, small rounded shells of bone, of which a specimen furnished by Dr. Berens is here shown, and other bony growths within the nose are not very rare; and a growth beginning in the ethmoidal sinus might very well have its origin from one of these, or from some similar structure. The connection of what was evidently an ethmoid polyp with the growth presented this evening is of especial interest.

In regard to the treatment there can be little question but that removal, as soon as the condition is recognized, is the best. It can be recognized early; it has been recognized by feeling before it caused any tumor evident on inspection. The perfectly hard, fixed character of the growth, its slow increase, at first without pain or other disturbance, and subsequently with very slight effects, considering the displacement produced, are quite characteristic. Neglect to remove the formation can only be followed by its continued increase, with the risks of extension in directions where it would be even more harmful than in the orbit.

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According to the *Gaz. d. Osp. E. D. Clin.*, a new process, invented by the chemist Linde, compresses air until it contains 70 per cent. oxygen, instead of the usual 25 per cent. A bottle of the air, put up in the mountains or at the seashore, will supply you at your residence with the healthiest and purest air in the world.

[1] *Birmingham Medical Review*, January, 1897.

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PHILADELPHIA, SATURDAY, DECEMBER 25, 1897.

## EDITORIAL.

### THE PHYSICIAN AND THE LAW.

During November Dr. N. Senn, of Chicago was served with papers at the conclusion of an operation and he later accompanied a couple of deputy sheriffs to Galena. It seems that he had been subpenaed as a witness in some case at Galena and had been prevented from attending. His first thought was to secure release by *habeas corpus* proceedings but decided to go to Galena.

Just what the circumstances were does not appear from the meager information at hand, and it is difficult to render an opinion without fully understanding all the details. While a physician cannot and ought not to escape the general claims which the law has on every citizen, he should, and usually does, secure excuse from jury duty and similar burdens. In all such cases, the profession should be careful to ask only what is demanded in the interests of their patients. The law should not be troubled with the wishes of individuals or classes and it ought to be plain to every one that the medical profession asks nothing for itself directly. The attempt to secure legislation to control the dispensary abuse in New York was very properly vetoed on the ground that the whole matter was one of self-interest and that the medical profession should be able to deal with evils arising in its own ranks.

Some time ago, a judge undertook to extort expert testimony from a physician. He refused to testify unless some provision was made for payment of his services and was fined for contempt of court. Whether the case was appealed—and if so with what result—The Reporter does not know. In defending his position, the judge spoke of the medical profession as especially favored by the State, on account of exemption from jury duty and the passage of laws restricting the practice to qualified graduates.

So superficial a consideration might be

expected from an ignorant man, but one would suppose that an interpreter of the law would understand the ultimate purpose with which such favors are shown. Our present system of obtaining testimony and jury duty is such that it is a serious burden to substantial citizens and an allurements to loafers. In most instances,—it is probable that Dr. Senn's case is within this category,—it should be possible to obtain written and properly attested evidence of ordinary kinds and thus avoid the trouble and expense of personal testimony.

It may be argued that such a method would interfere with cross-examination, but it may be asked whether it would not be possible under such a rule to elicit testimony more easily. A good rule is to get out of the way, if one accidentally comes within hearing or seeing distance of a street fight or any other occurrence that might lead to criminal or civil proceedings. Many thus avoid the risk of being subpenaed as witnesses and, in many instances, valuable evidence may be lost on account of the hardships involved in the present method of obtaining testimony. Certainly, when a physician is a witness as to a matter of fact, it should usually be possible to obtain similar testimony from another eye-witness or to allow him to present his evidence in writing.

# SOCIETY REPORTS.

## PHILADELPHIA COUNTY MEDICAL SOCIETY.

The President, Dr. James Tyson, in the chair.

Stated meeting, December 22, 1897.

Dr. Joseph Price read a paper upon

**Operative Details in Appendicitis.**

(See page 808.)

### DISCUSSION.

Dr. Mordecai Price expressed the conviction from his experience in appendicitis that all diseased appendices ought to be removed, but in quite a number the organ has already been removed before the operation; that is, the appendix has sloughed off, and the head of the colon is cribriform, or worm-eaten, with not one hole, but many. The patient is so septic that a complete operation would be out of the question. If under these conditions complete surgery is undertaken, that is, adhesions broken up and an attempt made to close the head of the colon, cutting out the necrosed and diseased part, the mortality would be unquestionably large. It is Dr. Price's practice in these cases to free the head of the colon and the surrounding portions in contact with the abscess-cavity, so as to insure free drainage, and then use gauze packing. This plan is pursued in the treatment of the desperate cases, with a temperature of 97° or 98°. Dr. Price attaches significance to the record of the thermometer. With a sub-normal temperature he is pretty well convinced that there is pus in the peritoneum, and this relation has been invariably confirmed by his experience.

Dr. Joseph Price said that there are two methods of operating for appendicitis. In the cases in which obstruction has existed for 24 or 48 hours, the patient will be found with a basin on a chair for the persistent vomiting, and with intestinal distention due to acute obstruction. Under these conditions he makes a central incision. The cases might as well not be touched at all as be treated through the common lateral incision. It is a discredit to surgery to operate by the lateral incison. A few, not all, can be saved by the central incision, freeing all adhesions and making a thorough toilet. The simple cases of appendicitis without perforation, or cases of simple localized appendicitis seen a few hours after perforation, can be saved by the lateral method, completed. These are the cases in which the appendix ought to be extirpated. The simple passage of a suture by the common methods of transfixion, that of passing the suture through the infected region, is a dirty procedure, infecting all of the structures through which the sutures pass. It is just operations like this that are causing so many sinuses and repeated

operations. The chronic cases, with pus boring up toward the kidney and sometimes through the esophagus or lung, are not very rare. The fecal odor associated with the enormous amount of pus evacuated is sufficient to settle the question of either perforative ulceration of the ascending colon or primary appendicitis. In these old, neglected cases, with multiple sinuses, and rigid adhesions, there is but one thing to do, and that is to evacuate the pus and drain carefully. At present there appears to be an attempt on the part of a few clinicians to persuade the profession that the mortality from appendicitis in children is not large. This is an error, as the mortality is frightful.

DR. JOHN B. DEAVER said that the mortality is quite as high in adults. Often he sees cases diagnosticated typhoid fever, gastro-enteritis, etc., in which appendicitis is correctly recognized finally, frequently too late for successful operative treatment.

DR. JAMES TYSON asked with regard to a statement in a medical journal that recovery from first attacks of appendicitis occurs in from 80 to 90 per cent. of cases.

DR. JOHN B. DEAVER said that his experience is not in accord with this statement. In 200 cases of appendicitis operated upon in the German Hospital this year thus far, 153 had previous attacks; this being so, recovery in the proper sense of the word did not follow the primary attacks.

DR. J. PRICE said with regard to the question of recurrence that there is in the Mütter Museum a specimen removed by Agnew from a man during his twenty-fifth attack of appendicitis. Such a case might be reported by twenty-four physicians twenty-four times as a cure, but of course there was no true recovery until the appendix was removed. The 90 patients referred to in which recovery ensued without operative interference go early to prominent operators.

DR. M. PRICE said that in 67 operations for appendicitis he had lost two; over and above that number, out of the 84 seen before operation 7 were dead before he could reach the house or died before anything could be done. It is a great mistake to say that there is no danger and that there is not a high mortality when the diagnosis has been made. Dr. Price has operated on not less than three or four recurring cases, all having been seen in first attacks, so far as the history indicated; nearly all in the country and nearly all as emergencies. Of the 67 operated on there is scarcely a single one that would have recovered had the knife not been used. Further, some cases in which appendicitis probably exists and pints of pus are discharged from the bowel, with recovery, are reported as cures, but it is bad treatment to allow them to go to this stage.

DR. WILLIAM F. ARNOLD, U. S. N., read a paper upon

## Some Personal Observations on the Bubonic Plague.

(See page 801.)

### DISCUSSION.

DR. BENJAMIN LEE said, with regard to the frequency with which rodents are attacked by the plague, that it has been said that before human beings are attacked it is noticed that the rats become unusually bold, that they come out of their holes and mix among human beings without the dread that they usually evince; and this has been explained by supposing that they were attacked by the disease before human beings were attacked. This leads to the supposition that possibly the infection of the plague is earth-borne, as compared with that of typhoid, for instance, which is rather a water-borne infection; that the germ propagates in the earth, and that its extension takes place along the surface of the ground and in its upper stratum, that which contains a considerable portion of air. One striking fact about the recent outbreak as related in the newspapers has been the very marked way in which the disease has followed lines of travel. Even more remarkable, perhaps, is the curious way in which it jumped about in India over spaces of hundreds of miles; places, to which one might suppose the disease would be conveyed by continuity and the occasional migration of foot-passengers, entirely escaping and the disease appearing in cities hundreds of miles distant. In every such instance, on consulting the map, one will find direct railway communication between the two places attacked.

DR. SAMUEL ASHHURST pointed out that Dr. Arnold's remarks cast very decided doubts upon the accuracy of Kitasato's observations, and lead one to believe that they do not deserve the credence which they received some months ago.

DR. H. E. WETHERILL asked the relative humidity of the air most adapted to the propagation of the plague, as reference had been made to one river region having a dryer atmosphere than another.

DR. ARNOLD said, with regard to the fact of rats losing their natural fear of man and appearing among human beings without obvious fear during the prevalence of plague, that in all authenticated instances they were afraid of man not because they were sick, but because they wanted water and air and took the easiest means of getting them. That the disease in rats precedes the disease in man is probably due to the fact that rats after having their burrows infected become ill in large numbers. The fact that rats die and are found in plague-houses is almost unquestionable.

The opportunities for infection among the rats are rather greater than among human beings, but the infection among both probably proceeds simultaneously. As a rat has to live most of his life with his nose within an inch of the surface of the ground, he is more likely to become infected than man. The question whether the disease is earth-borne or not has not been elucidated, but for all practical purposes enough has been learned to show that it is not so, but that the majority of cases are derived from pre-existing cases either in man or in animals; and to consider a certain area as infected through the earth itself beyond the possibility of disinfection simply is hardly a justifiable proposition in the present state of knowledge. There has been a good deal of confusion in this connection from more or less imperfect experiments undertaken to prove the presence of the plague-bacillus in the earth. Dr. Yersin did prove its presence in dust derived from the rooms of plague-patients, and Dr. Kerr, of Canton, relates that it was found also in dust from a room occupied by a man suffering from plague who had died, and by an attendant who had nursed him. Dr. Arnold stated that he did not think Kitasato has done any work of importance in regard to the plague-bacillus since he published his notice in Hong Kong in July, 1894. That notice is very incomplete, and does not contain even an ordinary description of the morphology and staining of the bacillus. Kitasato states that he was unable to determine whether the organism stained by Gram's method, ordinarily a matter of fifteen minutes' application. He failed also to supply Dr. Arnold and others with specimens for comparative study and the assumption is reasonable that if he has isolated the bacillus the onus of the proof rests on him.

In regard to the reference to the disease not having descended rivers on account of dryness it is to be said that ordinarily a small boat affords fewer opportunities for the growth of the bacillus by reason of the dryness of its upper works generally and the fact that it is nearly all exposed to light and air that blows rather than actual conditions of humidity. There are no records to determine what the humidity in China is. There is one station for meteorologic observations at Hong Kong and one at Shanghai. There is one climatic condition that influences plague—that is hot and dry weather. It was a tradition for years that plague did not descend to the south of the Indus, so that the plague at Bombay is a great surprise. There have been statements that it did not prevail south of the Tropic of Cancer, but these are negatived by its prevalence in Hong Kong, which is just about on the line of the Tropic. It has been also stated that the disease prevails in Africa, although there has been an idea that it did not prevail below the isothermic current of 60°. Many generalities like these have been dispelled and Dr. Lowson, whose practical knowledge is superior to that of any other, is inclined to think as a result of discussion with physicians who have done work in Africa that the disease has prevailed in various African countries.

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Dr. M. B. Hartzell read a paper upon

**Epithelioma in a Boy of Fourteen.**

(See page 807.)

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Dr. Edward Jackson reported a case of

**Ivory Exotosis of the Orbit.**

(See page 809.)

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# PERISCOPE.

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As a remedy, says a writer in the *Eclectic Medical Journal*, **triticum repens** has no superior in the treatment of irritation of the urinary apparatus. It increases the amount of urine and renders it bland. It is also somewhat demulcent in action. Triticum is an excellent remedy in so-called gravelly or phosphatic urine. In chronic cystitis it is unexcelled; in dysuria from irritation in the bladder or urethra it is always to be considered. The enlarged and irritable prostate in old men is quickly quieted many times by the free use of triticum. In strangury and in bloody urine arising from any part of the tract from the kidney to the meatus, triticum has few if any equals, and no superiors. Especially is this true of the infusion. The infusion, iced, or with a slice or two of lemon in it, forms an excellent drink in fever.—*Western Drug.*

Counting himself as the first generation, a man's ancestors of the tenth generation should number 512. But any intermarriage of first cousins cuts off two ancestors, two generations farther back and this subtrahend increases geometrically by two in each regressive generation.

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*The Australasian Medical Gazette* mentions a trial for manslaughter, on account of the death from blood-poisoning of a patient who had been treated for cancer by a "specialist" who used arsenic paste, and a registered physician. The court decided that the defendants were not guilty, arsenic poisoning being excluded and there being insufficient evidence to support the claim of the prosecution that the remedy was obsolete.

Dr. G. L. Walton, Boston, considers **spasmodic torticollis an affection of the cortical centers for rotation of the head.** The pathogeny is not settled. That it is easily inhibited does not establish a mental not settled. The fact that it is sometimes easily inhibited does not establish a mental origin. Gross organic lesion is not present. Long continued habit hay merge into spasm, as seen in certain occupations. Eye strain sometimes plays a part through causing faulty posture (oblique astigmatism, muscular insufficiencies). In one case it followed the wearing of a glass, which increased instead of relieving an oblique astigmatism. The course of the disease is progressive. The principal muscles affected are the sterno-mastoid, splenius capitis, complexus, trachelo-mastoid, and the inferior oblique. The most common form implicates the sterno-mastoid of one side and the posterior rotators of the other; less frequently the spasm is limited to the sterno-mastoid, occasionally to the posterior rotators of both sides (retro-collis), and rarely to the sterno-mastoid and posterior rotators of the same side. Treatment other than operation is ineffectual in well-established cases. Simple nerve section and nerve stretching are unavailing. The only operations to be considered are resection of nerves and section of muscles. Operations are generally too limited rather than too extensive. In most cases it will be necessary to resect the spinal accessory and the first three posterior branches of the cervical nerves. It will generally be wise to cut also the affected musles. Muscle section alone has given good results (Kocher), but there is no reason to abandon nerve section. Absolute cure cannot be expected in over half the cases, improvement occurs in a great proportion, and failure in a certain proportion.—*Jour. Nerv. and Ment. Dis.*

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In *Pharmacal Notes* a few months ago appeared the following: "We have not discovered any process whereby we can reduce delicate fluid extracts to granular form and press them into tablets, and we do not think any one else has. But we have discovered a process whereby we can compress dry, insoluble powders—quinin, acetanilid, sulphur, etc.—without the aid of any chemicals whatever, so that upon contact with moisture, acid, alkaline or neutral, they disintegrate at once."

Commenting on the above, J. U. Lloyd writes (*Eclectic Med. Journal*): "The foregoing, from one of the heaviest tablet-makers in America, chimes so directly into the line of argument maintained for years by the writer of this paper as to make its reproduction a pleasure. Had our tablet friends been more conservative, many troubles might have been avoided. A clean tablet that carries in itself what it pretends to convey is not necessarily inferior to a clean pill. A so-called tablet of a substance that can neither be dried nor powdered is an imposition, and credits neither its maker nor the prescriber. Bottles containing so-called tablets of such evanescent substances as can not be made into tablets have done more to discredit the tablets than tablet opposition could have done. Doubtless many physicians have thrown out the entire line of tablets because of the fact that they were unable to differentiate between such as carry their full drug values and others useless. For this professional dilemma none are more to blame than tablet makers, who, in the light of experience, will recover from their hasty enthusiasm, and eventually drop from their lists such tablets as discredit the name, and who, in doing so, will place the tablet subject on a more solid foundation. There is a place in medicine for medicinally true tablets, and it is a pity that an entire class should suffer in consequence of the bad company of some of its membership."—*Western Druggist.*

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It has been a matter of frequent comment in different journals of late concerning the **remarkable health of the Turkish soldiers** and the rapidity with which the wounds of those sent to the hospital would heal, also the fortitude and bravery with which they are devoted to their cause. This has universally been attributed to their abstemious manner of living. They drink no wine, eat but little meat, and take plenty of vegetables. This is another illustration of the fact that right habits of eating and drinking will bring their sure results in strength and health even though other laws of life and morals are entirely disregarded. —*Health.*

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**A wet dressing should be above all non-irritating.** Carbolic acid in even two per cent. solution may cause severe even two per cent. solution may cause severe dermatitis, while corrosive sublimate will often give rise to very distressing local effects and even to constitutional symptoms. The very best lotion for general use in any part of the body is known under the name of Burow's solution. It is easily prepared by dissolving twenty-eight grains of lead acetate crystals in water, pouring this solution into a vessel containing a solution of seventy grams of alum in water, and then diluting up to 800 grams. A precipitate of lead sulphate forms and must be thoroughly filtered out. The clear liquid remaining should be diluted further on using with from three to five parts of water. When you wish to use it pour the required amount of water into a vessel and add the Burow's solution from the "stock" 800 gram bottle. It forms an excellent wet dressing in cases of burns, acute eczema, furunculosis, ulcerations of the skin, etc. Use wringing wet gauze and cover well with rubber tissue, oil silk or oil paper.—*Int. J. of Surg.*

While the **nervous manifestations consecutive to grippe** are almost innumerable, tremor is of very rare occurrence in this connection, and a few cases have been published. In the present instance the patient exhibited tremor, twice, after two attacks of influenza, a year apart, the second time much more marked than the first. The tremor involved the right arm and leg, was continuous while the patient was awake, but ceased during sleep. It was considered to belong to the category of hysterical tremor, being in a latent state until revealed by the grippe acting with predilection on the nervous system. The treatment consisted of subcutaneous injections of spermine. Every day 25 centigr. of hydrochlorate of spermine, dissolved in a generous solution of hydrochloral of sodium, were injected. After three injections a notable amelioration was observed. This treatment was continued for a fortnight, when the patient was able to resume his work.—De Buck and de Moor, *Jour. de Med.*

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Comby reports a case of **temporary insanity in a child following typhoid fever.** The disease took the usual course in a three years' old boy and ended in perfect defervescence on the twenty-sixth day. Then an intense maniacal delirium occurred, accompanied by visual hallucinations. This condition continued eight days, and then gradually improved, disappearing after two weeks. Cases of this kind are not rare in adults, but are exceptional in children. As the cause is probably a sequence of an anemia and poor nutrition, the best remedy will be a good, strengthening diet.—(*Deutsche Medic. Ztg.*) —*Pediatrics.*

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Vital statistics of nearly three hundred towns in the Southern States show that the **death rate of negroes is double that of whites** in the same communities, and not only this, but the birth rate is also smaller among the colored than among the white population. Furthermore, the day of the stalwart negro is passing, if not already gone, and the members of the younger generation of the race make a poor showing, as regards their size and physical constitution, when compared with their grandfathers and grandmothers.—*Medical Record.*

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Professor Fraenkel, who became prominent at the time antituberculin was first exploited, and who was director of the imperial biological station of Berlin, lost his life by drowning in Mueggel lake.

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When tubercle bacilli are found, they are a sure sign of tuberculosis, barring accidental contamination of sputum. If they are not found, the disease may still be in progress behind an epithelial barrier or they may be missing because the sputum is scanty.

## NEWS AND MISCELLANY.

**A New Centrifuge for Medical Purposes.**—There has recently been perfected a centrifugal machine for the rapid examination of urine, blood, sputum, milk, water, etc. The fluids are contained in glass tubes which are rotated horizontally by means of a set of hardened bronze gears having spirally cut teeth. The speeds required vary from 2,000 to 12,000 per minute, hence the spirally cut teeth are a great advantage, as they very materially reduce the friction and noise generated by the rapid rotation and thus increase the speed attainable, also the wearing qualities. The reason for the saving effected lies in the fact that three teeth always come in contact at once and in a shearing manner, so as to prevent all back lash, etc. The gearing and axles are contained in a circular metal case 4 inches in diameter and 1 inch thick. In use the instrument is clamped to the table by a screw clamp. For the precipitation of sediments in urine, the urine is contained in two glass tubes, each having a capacity of 15 cc. of fluid. One of the tubes is plain and is intended for the collection of sediment for microscopical examination. The other tube has the first 10 cc. graduated into 100 parts, the 15 cc. point being also indicated by a graduation. In this tube 10 cc. of the urine to be examined are placed and 5 cc. of the proper re-agent to cause the precipitation of the substance which it is desired to determine, is then added. After centrifugation, the substance (chlorides, phosphates, sulphates, albumen), etc. will be found collected in the distal end of the tube and the per cent may be read direct from the scale up. A neat manual of "Centrifugal Analysis" minutely describing the various methods employed in the examination of blood, urine, sputum, milk, water, etc., is sent free upon request by Bausch & Lomb, Rochester, N. Y.

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Dr. A. Walter Suiter, of Herkimer, has been appointed a member of the N. Y. State Board of Medical Examiners, in place of Dr. Wey, of Elmira, deceased.

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Potassium chlorate is a local astringent. It is not of value as a general remedy, except as it is excreted. It does not yield oxygen when used internally, it may cause Bright's disease.

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ESTABLISHED 1853

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